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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,299	12/24/2001	Nevenka Dimitrova	US010671	3003
24737 7590 02/20/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
CHOWDHURY, SUMAIYA A				
ART UNIT		PAPER NUMBER		
2421				
MAIL DATE		DELIVERY MODE		
02/20/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/028,299

**Applicant(s)**

DIMITROVA ET AL.

**Examiner**

SUMAIYA A. CHOWDHURY

**Art Unit**

2421

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,3,5-13,17-20,24,25,29,30,33-38 and 41-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-13,17-20,24,25,29,30,33-38 and 41-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-849)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 10/27/08 have been fully considered but they are not persuasive.

(a) Applicant argues "...the cited paragraph do not describe a demultiplexer as set forth in claim 5" on page 11, 6<sup>th</sup> paragraph of the Remarks filed 10/27/08.

As the multimedia data is received, it is broken down into portions (data components). For example, a CNN news program would be broken down to "International News", "National News", "Entertainment", etc. The multimedia transmitted includes both audio and video.

(b) Applicant argues "An absence of user interaction..." on page 12, 3<sup>rd</sup> paragraph of the Remarks filed 10/27/08.

If the user leaves the TV on for a duration of time and steps away from the TV, an absence of interaction with the TV will occur which will be recorded as an absence of interaction by the system.

(c) Applicant argues "There is no suggestion in Thuraisingham..." on page 15, 1<sup>st</sup> paragraph of the Remarks filed 10/27/08.

Applicant is arguing that which is not claimed. Nowhere does Applicant claim non-monotonic reasoning is superior, nor picking non-monotonic reasoning out of the list. At most, Applicant claims using modal non-monotonic to make deductions which Thuraisingham teaches.

(d) Applicant argues "...assigning an interest level value to play sequence commands, calculating a level of user interest as a function of the interest ..." on page 15, 2<sup>nd</sup> paragraph of the Remarks filed 10/27/08.

Alexander does teach such. Based on a combination of user interaction with the content, a level of user interest is calculated.

(e) Applicant argues "Arellano does not suggest periodically..." on page 16, 3<sup>rd</sup> paragraph of the Remarks filed 10/27/08.

Applicant does not explicitly define snapshot. Examiner reads the snapshot as claimed as the user model described in Arellano. In particular, Arellano describes the user model as a representation of each user's preferences. The user model maintains some form of history that describes the relevant discourse of interaction that supports the user's preferences contained therein.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 24, 25, 29, 30, 33, 51, and 52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 29 recites "A data processing method comprising, with a computer program..."

However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology

permits the function of the descriptive material to be realized"). The examiner suggests amending the claim to embody or encode the program on computer-readable medium or equivalent in order to make the claim statutory. For example, the preamble of claims 29 should read --**A computer readable medium encoded with computer executable instructions that when executed by the computer result in:** --. Further, note that any amendment to the claim should be commensurate with its corresponding disclosure.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3, 5, 7-8, 24, 29-30, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander (6177931) in view of Thuraisingham (5481700).

Regarding claim 5 Alexander teaches a data processing system comprising:

a demultiplexer which demultiplexes at least visual, audio, and multimedia content into data components (portions; col. 12, lines 17-44, col. 19, lines 5-12, col. 31, lines 40-48);

one or more content analyzer routines which analyze the data components to derive at least facts from the relevant user experience and behavior (col. 28, lines 30-67, col. 29, lines 22-67);

a store computer routine which stores at least the derived facts, user experience and behavior, other facts and information, and user inputs responsive to user queries into an adaptive memory with a hierarchy of linked index nodes, each node corresponding to subcategory of information (sports, basketball, teams; col. 29, line 30 - col. 30, line 15); and

a reasoning and fact reconciling computer routine which controls the adaptive memory to create at least one link to a content node and weak links to other index nodes, which weak links do not fit into the hierarchy (col. 29, line 30 - col. 30, line 15)

However, Alexander fails to teach modal logic is used to control the adaptive memory.

In an analogous art, Thuraisingham teaches modal logic is used to make deductions and gives new complete answers to queries – col. 56, line 62 - col. 57, line 60, col. 47, lines 43-62, col. 49, lines 10-67, col. 51, lines 12-15.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Alexander's invention to include the above mentioned limitation, as taught by Thuraisingham, for the advantage of having a machine automatically reason and draw inferences to come up with answers which are more accurate and more reliably ranked.

Regarding claim 2, Alexander discloses a name of at least one person who participated in creation of a relevant piece of content (identification number; col. 28, lines 22-29).

Regarding claim 3, Alexander teaches the facts derived from content comprise a summary (characterizations) of a relevant piece of content (col. 29, lines 30-67).

Regarding claims 7, Alexander teaches the facts derived from user behaviors include at least one record of presence of the user (col. 28, lines 52-59).

Regarding claim 8, Alexander teaches the facts derived from user behaviors include at least one record of queries (col. 28, lines 61-65, col. 31, lines 48-55).

Claims 29, and 30, contain the limitations of claims 5, 10, and 12 and are analyzed as previously discussed with respect to those claims. Claims 17 and 29 additionally call for the following:

An adaptive memory with weak links outside of the hierarchy (Alexander; teams the user is not a fan of; col. 29, line 55 – col. 30, line 10).

The play sequence commands are each assigned an interest level value; Calculating a user's interest in a particular content segment as a function of the interest level values of play sequence commands in the record.(Alexander inherently teaches

assigning and calculating interest level values in order to recommend content to the user as discussed above in claim 12);

Regarding claim 33, they are analyzed and rejected similar to claim 9 above.

Regarding claim 24 it is analyzed and rejected similar to claim 7 above.

5. Claims 6, 17, 20, 45-46, and 49-52 rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander and Thuraisingham as applied to claim 5 above, and further in view of Vallone (6642939).

Regarding claim 6, Alexander discloses capturing at least one record of play sequence commands (user interaction; col. 28, lines 30-52), but fails to disclose wherein the play sequence commands including one or more of fast-forward, pause, replay, jump, select, and rewind commands.

In an analogous art, Vallones discloses the abovementioned functions.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Alexander and Thuraisingham's invention to include the above mentioned limitation, as taught by Vallone, for the advantage of including widely used general commands which would well depict a level of user interest.



Claim 17 contain the limitations of claims 5, 6, 10, and 12 and are analyzed as previously discussed with respect to those claims. Claims 17 and 29 additionally call for the following:

An adaptive memory with weak links outside of the hierarchy (Alexander; teams the user is not a fan of; col. 29, line 55 – col. 30, line 10).

The play sequence commands are each assigned an interest level value; Calculating a user's interest in a particular content segment as a function of the interest level values of play sequence commands in the record.(Alexander inherently teaches assigning and calculating interest level values in order to recommend content to the user as discussed above in claim 12);

Claim 20 is analyzed and rejected similar to claim 9 above.

As for claims 45-46, and 49-52, Alexander and Thuraisingham disclose a record of commands which illustrate a level of user interest. However they both fail to disclose the commands include fast forward, rewind, replay, and jump commands.

In an analogous art, Vallone discloses the abovementioned functions.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Alexander and Thuraisingham's invention to include the above mentioned limitation, as taught by Vallone, for the advantage of including widely used general commands which would well depict a level of user interest.

6. Claims 9, 25, 34, 36-38, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander and Thuraisingham in view of Arellano.

As for claim 9, Alexander and Thuraisingham fail to teach wherein a snapshot acts as a bias toward a longer term view of user behavior.

In an analogous art, Arellano teaches at least one snapshot, which snapshot acts as a bias toward a longer term view of user behavior (par. 90, 737; par. 190, lines 8-12; par. 29, lines 7-10; par. 39, lines 30-33; par. 128; par. 18; in which snapshots maintained for longer/continuing time period, for analyzing/finding future trends and patterns).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Alexander and Thuraisingham's invention to include the above mentioned limitation, as taught by Arellano, for the advantage of determining user preferences. Regarding claim 25, it is analyzed and rejected similar to claim 9 above.

Regarding claims 34, 36 and 44, contain the limitations of claims 5, 10, 12, 17, and 25, and are analyzed as previously discussed with respect to those claims.

Regarding claim 37, Alexander teaches the operations further comprise

capturing content summaries (EPG/characterizations) of the content experienced by the relevant user; and analyzing the captured content and content summaries and behaviors to create updated personal data; updating the adaptive memory with the updated personal data (col. 28-col. 29).

Claim 38 contains the limitations of claim 11 and is analyzed as previously discussed with respect to that claim.

Claim 41 contains the limitations of claim 12 and is analyzed as previously discussed with respect to that claim.

Claim 42 contains the limitations of claim 34 and is analyzed as previously discussed with respect to that claim.

Claim 43 contains the limitations of claim 10 and is analyzed as previously discussed with respect to that claim.

7. Claims 10-13, 35, 47-48 and 53-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander, Thuraisingham, and Arellano as applied to claim 10 above, and further in view of Vallone (6642939).

Claim 10 contains the limitations of claim 5, 6, and 9 and is analyzed as previously discussed with respect to those claims. Claim 10 additionally calls for the following:

capturing content experienced by a relevant user and the relevant user's behaviors; analyzing the content and behaviors to create updated content and behavior data; and updating the adaptive personal memory with updated data (Alexander; col. 28, line 12-col. 29, line 67);

analyzing play sequence commands (Alexander; col. 28, lines 30-52)

wherein analyzing the snapshots includes determining a level of interest in particular content (Arellano; par. 90, 737; par. 190, lines 8-12; par. 29, lines 7-10; par. 39, lines 30-33; par. 128; par. 18; in which snapshots maintained for longer/continuing time period, for analyzing/finding future trends and patterns)

Regarding claim 11, Alexander teaches the operations further comprise interfacing with the user and acquiring more data from the user (col. 31, lines 34-57, col. 29, lines 22-27).

Regarding claim 12, Alexander teaches interfacing further comprises one of recommending new content based on the adaptive personal memory (col. 31, lines 25-30).

Regarding claim 13, Arellano teaches determining a level of interest in a particular content (web page) responsive to one of what queries (web page request) were made (Arellano-par. 190).

Regarding claim 35 it is analyzed and rejected similar to claim 7 above.

As for claims 47-48 and 53-43, Alexander, Thuraisingham, and Arellano disclose a record of commands which illustrate a level of user interest. However they both fail to disclose the commands include fast forward, rewind, replay, and jump commands.

In an analogous art, Vallone discloses the abovementioned functions.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Alexander, Thuraisingham, and Arellano's invention to include the above mentioned limitation, as taught by Vallone, for the advantage of including widely used general commands which would well depict a level of user interest.

8. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexander, Thuraisingham, and Vallone as applied to claim 17 above and further in view of Sezan et al. (US 2005/0091686 A1).

Regarding claims 18, Alexander, Thuraisingham, and Vallone teach seeking (identifying) new content having content models in common with previously experienced (interacted) content (Alexander teaches recommending content based on previous interaction).

However Alexander, Thuraisingham, and Vallone fail to specifically disclose a participant.

In an analogous art, Sezan teaches it is desirable to identify participants (e.g., directors, actors, etc.) in new content in common with previously watched content for searching and filtering out content of preferred by the user (par. 47, lines 1-7; par. 41, lines 3-10; par. 42, lines 21-35; par. 45, lines 20-27).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to modify the system of Alexander, Thuraisingham, and Vallone to include the limitation a participant as taught by Sezan for the advantage of increasing user convenience and satisfaction by identifying new content the user would like by enabling the user model/profiler to acknowledge the user's preferred actors, directors, etc.

Regarding claims 19, Alexander, Thuraisingham, and Vallone teach seeking (identifying) new content having content models in common with previously experienced (interacted) content.

However Alexander, Thuraisingham, and Vallone fail to specifically disclose summary information.

In an analogous art, Sezan teaches it is desirable to identify summary (program profile, e.g., stars in the movie, rating, keywords, categories, etc.) information in new content in common with previously watched content for searching and filter out content of preferred by the user (par. 47, lines 1-7; par. 41, lines 3-10; par. 42, lines 21-35; par. 45, lines 20-27).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to modify the system of Alexander, Thuraingham, and Vallone to include the limitation summary information as taught by Sezan for the advantage of increasing user convenience and satisfaction by identifying new content the user would like by enabling the user model/profiler to acknowledge the user's preferred content profiles.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUMAIYA A. CHOWDHURY whose telephone number is (571)272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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